

Summary

The Port Townsend ferry terminal is part of the Washington State Ferry (WSF) system. The terminal serves a route that provides daily service between Keystone on Whidbey Island and Port Townsend on the Olympic Peninsula. The existing ferry terminal was constructed in 1982. Most of the terminal's berthing structures are at or beyond their design life. These facilities need to be replaced as soon as possible to maintain safe and continuous operation of the terminal.

In addition, Washington State Ferries needs to replace the aging Steel Electric Class vessels that currently serve the Port Townsend-Keystone ferry route. WSF is currently considering three alternative sizes of vessels for the route (a small vessel holding approximately 65 cars, a mid-size vessel holding approximately 100 cars, and a large vessel holding approximately 144 cars). The terminal will be designed to accommodate the selected vessel.

During peak travel periods, the existing holding area on the dock is not large enough to accommodate the number of vehicles waiting to board the ferry. Even with the use of a remote holding area at Indian Point located ¼ mile west of the terminal, traffic can back up and block access to businesses and residences. The remote holding area property has been sold to a private developer and will likely be converted to a non-WSF use within the next 2 to 3 years. For that reason, WSF will construct a new remote holding area on SR 20 regardless of whether the improvements to the terminal are made. The need for holding space will likely increase over time as the ridership of the Port Townsend-Keystone ferry continues to grow.



Study area for the Port Townsend Ferry Terminal Preservation and Improvement Project

The primary purpose of the Proposed Action is to maintain safe, reliable, and continuous ferry service at the terminal by:

- Replacing critical components of the existing terminal's berthing structures.
- Ensuring that the marine structures are designed in a manner to accommodate the new type of ferry vessel selected.
- Expanding the vehicle holding capacity to relieve off-site traffic congestion and improve ferry customers' experience, minimize conflicts with local traffic, reduce operational costs, and keep pace with future ridership demand.

The following sections summarize the findings and conclusions of the discipline reports and technical memorandums prepared for the Port Townsend Ferry Terminal Preservation and Improvement Project.

Air Quality

What is the affected environment?

The affected environment for air quality is defined by the level of air pollutants in the airshed under existing conditions. This is often determined by concentration data collected at local air monitoring stations.

How were the effects of the project on air quality analyzed?

The effects of the project on air quality were analyzed by estimating the effects during both construction and operation of the project. This involved first identifying the source of air pollutants and correlating transportation effects to air quality impacts (from vehicle exhaust) by looking for potential areas of increased congestion or traffic volumes that may result from the project. Effects to air quality were also evaluated in terms of the ferry emissions associated with the ferry vessel size options.

What air quality effects would occur during construction of the project, and what mitigation is proposed?

Demolition, construction, and dredging (if the largest vessel option is chosen) would result in a temporary increase in air emissions from equipment exhaust and fugitive dust in the project vicinity. There may also be slight increases in vehicle exhaust emissions associated with construction-related traffic, including personnel, heavy equipment, and material hauling within the study area. Most construction-related hauling traffic would arrive by boat and work offshore. Construction workers would either arrive by ferry or be shuttled in from a remote parking area.

Roadway lanes may occasionally be closed temporarily during construction of the improvements along SR 20. Traffic would be rerouted or redirected during this time. SR 20 may be closed for short periods at the ferry terminal entrance and the new remote holding area, but ferry operations would continue. Impacts would be kept to a minimum by scheduling lane closures and holding area restrictions outside of the peak travel demand periods such as commute hours and peak summer travel periods.

Construction of the Proposed Action is expected to last approximately 1.5 years. The construction effects would end when construction is complete.

What air quality effects would occur during operation of the project, and what mitigation is proposed?

The Proposed Action would accommodate the projected ferry travel demand by increasing the ferry terminal holding area, improving tollbooth processing, and providing queuing areas for overflow vehicles along the south side of SR 20 west of the terminal. The project would not increase ferry ridership demand, but would provide adequate vehicle and passenger accommodations for the projected demands.

From a regional standpoint, the project would represent an improvement over No Build conditions, under which additional vehicles would be required to drive longer distances to get to their destination.

In terms of local effects, there is the potential for additional emissions from idling vehicles in the ferry queue for the mid-size and largest ferries, and additional traffic on westbound SR 20 during periods of loading and off-loading.

Mitigation to reduce traffic impacts would also serve to reduce air quality impacts. These measures would include construction of a westbound right-turn pocket and a northbound left-turn pocket at Haines Place and East Sims Way, and revising the current signal phasing. Mitigation for the largest vessel option may include addition of a southbound left-turn pocket and revised signal phasing at the intersection of Kearney Street and East Sims Way. Another potential mitigation measure would be to provide storage for off-loading vehicles so that their access to SR 20 can be metered.

In terms of emissions from the ferries, the largest ferry option would have lower annual emissions than both the mid-size and small ferry options. This is mainly due to the fact that the larger capacity of the ferry results in fewer numbers of sailings to transport the same number of riders.

Are any of the identified effects considered substantial?

The air quality analysis team identified no significant effects on air quality in the study area.

What effects on air quality would occur if the project is not built?

If the project is not built, there would be the potential for increased effects from motor vehicle traffic in the project vicinity. Projected growth in both background and ferry traffic is predicted to result in slightly longer delays at several intersections including East Sims Way/Haines Place and the ferry terminal intersection. These delays would translate to slightly higher emissions from motor vehicle exhaust, as longer delays result in higher emissions from idling vehicles.

With the No Build Alternative, the Steel Electric Class boats would be used until retirement from the WSF fleet, and would then need to be replaced. Ridership growth may exceed the capacity of similar-sized vessels, thereby resulting in more motor vehicles driving further to another ferry or to avoid the ferries altogether. This could increase emissions region-wide from motor vehicle exhaust, although this is a difficult correlation to make given the possibility of other high-occupancy vehicle options.

While these increases would not be likely to cause the area to violate air quality standards, they would still represent an increased potential for adverse effects on air quality.

Geology and Soils

What is the affected environment?

The affected environment for geology and soils consists of topography, regional geology, surficial soils, deeper soils, and groundwater conditions. Of these effects, some, such as topography and surficial soils, would potentially be affected by the project. However, the others, such as regional geology and deeper soils, would not change as a result of the project and therefore would not be affected in the true sense. However, geology and soils conditions will have an important influence on how the project is constructed and how it performs over the long term. For this reason, the geology and soils are studied to confirm that adverse impacts related to soils and geology do not occur or are mitigated during design and construction, even if the geology and soils are not affected by the project.

How were the effects of the project on geology and soils analyzed?

The effects of the Proposed Action on geology and soils were determined primarily through a qualitative review of the project features relative to the regional and local geology, soil types and consistency, and groundwater conditions within the study area.

What geology and soils effects would occur during construction of the project, and what mitigation is proposed?

There are both direct and indirect effects of construction of the project that are related to geology and soils. Direct effects are those that would result directly from construction. Generally these are within the project footprint and they occur as work is being done. The most important direct effect for this project would be related to the proposed dredging to accommodate the largest vessel. These direct effects would include:

- Removal of soils in front of the trestle extension during dredging,
- Disposal of surplus soils from dredging in subtidal borrow areas, and
- Disturbance of the seafloor during dredging, leading to sediment transport away from the project footprint.

A number of other direct effects would also occur from construction of this project, such as:

- Potential loss of soil from excavations or from surface erosion,
- Depletion of aggregate sources, and
- Compression of underlying soils due to fill or stockpiles.

There would also be the potential that an earthquake during construction would result in excavation slope failures, liquefaction, lateral flow or spreading, and ground settlement.

Indirect effects associated with geology and soils during construction are those that would affect areas outside the immediate area of construction or that would occur at some point in time after construction has been completed. An example of an indirect effect would be a change to regional groundwater flow conditions that results from compression of soils below fill or stockpiles or from construction of retaining structures or pile foundations.

The effects from most construction activities would be mitigated by implementing standard design and construction procedures. These mitigation measures range from implementation of best management practices (BMPs) during construction to modifying the design requirements for the project.

What geology and soils effects would occur during operation of the project, and what mitigation is proposed?

There are both direct and indirect effects of operations on the geology and soils in the study area. Direct effects would include settlement due to bearing characteristics of the subgrade supporting the roadways and potential risk to the public during use of roadways and the ferry terminal following a seismic event. Indirect effects would include continued erosion if new vegetation is not successful in stripped or disturbed areas. Another potential indirect effect during operation would be small amounts of settlement that could decrease the hydraulic conductivity of underlying soils.

The effects of long-term settlement and seismic hazards associated with geology and soils would be mitigated using current design methods. Erosion can be mitigated by diligent maintenance until vegetation or other permanent erosion control features are established.

Are any of the identified effects considered significant?

Significant geologic effects are those that might require new locations for the project elements or the use of a different method of supporting the roadway or ferry terminal. No significant effects related to geology and soils have been identified. This conclusion is based on the general flatness of topography within the project footprint, the local geology within the project footprint, the nature of the geologic hazards that were identified, and the type of proposed restoration and development.

What environmental effects associated with geology and soils would occur if the project is not built?

A new remote holding area will be constructed to replace the current remote holding area at Indian Point. Direct effects would occur from construction of the new remote holding area, such as:

- Potential loss of soil from excavations or from surface erosion,
- Depletion of aggregate sources, and
- Compression of underlying soils due to fill or stockpiles.

There would also be potential earthquake effects as described above.

Potential indirect effects associated with geology and soils during construction of the new remote holding area would include a change to regional groundwater flow conditions that results from compression of soils below fill or stockpiles or from construction of retaining structures or pile foundations.

Marine Waterways

What is the affected environment?

The affected environment for marine waterways and hydrological systems includes the physical oceanographic conditions, seabed, and shoreline structures and beaches

in the immediate vicinity of the ferry terminal and nearby areas.



Port Townsend Ferry Terminal

How were the effects of the project on marine waterways and hydrological systems analyzed?

The marine waterways analytical team used a sophisticated numerical model called ADCIRC (Advanced Circulation Model) to determine tidal circulation patterns for Port Townsend Bay and detailed flow fields for the areas influenced by the No Build Alternative and Proposed Action. The existing conditions and the Proposed Action were modeled. Tidal circulation modeling results also were used as input parameters for numerical modeling of water quality.

If WSF selects the largest ferry vessel for the Port Townsend-Keystone route, dredging would be required. The dredged material would be placed in the offshore half of an existing subtidal borrow pit near the northeast side of the ferry terminal. This material would only partially fill the borrow pit, and imported material would be required to fill the pit to at least the existing seabed level so that eelgrass could be established.

Propeller wash scour patterns and analysis of potential eelgrass effects were based on three-dimensional numerical modeling of propeller-generated velocities for the three different sizes and propulsion systems of ferries WSF is considering. A comparative analysis was then made between ferry propeller wash patterns for the existing conditions and those for the Proposed Action using propulsion parameters for the smallest, mid-size, and largest ferries.

Ferry wake effects were analyzed using known wake characteristics from similar size ferries and adjusting the wake parameters for the three sizes of ferries under consideration for the Proposed Action. Wake waves were analyzed for a stretch of beach just east of the ferry terminal, and sediment transport from proposed ferry wakes was determined relative to that from the wind-wave climate and the existing Steel Electric Class ferry.

Effects on coastal flooding were evaluated based on the procedures outlined by FEMA Flood Insurance Rate Map and Flood Insurance Study, along with local and state regulations concerning construction of new marine structures. Coastal engineers assessed the potential effects that the Proposed Action would have on coastal flooding zones at and adjacent to the ferry terminal.

What marine waterway and hydrological system effects would occur during construction of the project, and what mitigation is proposed?

Construction of the 180-foot extension to the trestle would affect eelgrass areas at the offshore end of the ferry trestle near Slip 2, as the trestle extension would cover this particular eelgrass patch. Towboat propeller wash and construction barge anchoring systems using spread anchoring layouts

(i.e., ground tackle with anchors) could also potentially affect eelgrass areas outside of the ferry trestle footprint.

If WSF selects the largest ferry for the Port Townsend-Keystone route, dredging activities at the offshore end of the 180-foot trestle extension and deposition of the dredged material would be required. This dredged sediment would be deposited in an existing subtidal borrow pit. The edge of the existing borrow pit is approximately 50 feet northeast of the ferry terminal, and the deepest part is approximately 200 feet northeast of the terminal. As noted in the *Fisheries Discipline Report*, Port Townsend Plaza owns about half of the borrow pit closest to shore, so this part of the borrow pit would not be filled.

To mitigate potential effects during construction, the routes and operations of towboats and anchoring of barges would be controlled so that existing eelgrass areas would not be affected. Towboats, for example, would be positioned so as not to direct damaging propeller wash into eelgrass beds adjacent to the ferry terminal. Barges would be anchored so that anchors and ground tackle, if used, would not be placed in nearby eelgrass beds. Barges with spud anchors also could be used that would alleviate the need for spread anchoring systems.

If WSF selects the largest ferry, dredging would be done using a clamshell bucket. Seabed material would be dredged using an enclosed or cable-arm bucket suitable for fine grained sediments to reduce wash-out of material from the bucket into the water column. Material would be placed on a split-hull barge that a towboat would move to the borrow pit, where the material would be released. A split-hull barge is a barge that has a hold for containing the material, but the hull is hinged so that the two halves can spread open, allowing material to drop to the seabed below. Imported material would be required in addition to the dredged material to fill the offshore half of the borrow pit to the desired elevation. Deposition of all material would take place during periods of slack tide with little or no current to minimize migration of material beyond the boundaries of the borrow pit. Eelgrass would then be planted on the newly created seabed area as described in the *Fisheries Discipline Report*.

What marine waterway and hydrological system effects would occur during operation of the project, and what mitigation is proposed?

The project would have no substantial effect on marine waterway systems. Tidal circulation modeling and ferry vessel wake analysis indicate that existing tidal current patterns and nearshore sediment transport processes would not be negatively affected by the project. Extensive propeller wash modeling indicates that operation of any of the proposed ferries at the proposed terminal would have no adverse effects on existing eelgrass beds. In addition, the project would include removal of 410 existing creosote-treated wooden pilings and would replace them with 161 steel pilings for the wingwalls and dolphins at Slips 1 and 2. The use of a smaller number of piles would improve tidal circulation on a small scale in the close vicinity of the piles, since they would be spaced apart unlike many of the existing wooden piles that are now clustered together.

What cumulative effects would there be on marine waterways and hydrological systems?

No substantial cumulative effects on marine waterways and hydrological systems are expected as a result of the Proposed Action.

Are any of the identified effects considered significant?

There would be no significant marine waterway effects. During construction, potential eelgrass damage from towboat propeller scour or use of barges with spread anchoring systems would be mitigated as described above. No significant turbidity plumes would be expected from the methods proposed for dredging and deposition of seabed and imported fill material.

What effects on marine waterways and hydrological systems would occur if the project is not built?

There would be no effects on marine waterways and hydrological systems for the No Build Alternative.

Water Resources/Water Quality

What is the affected environment?

The water resources (water quality and surface water) analysis focuses on marine water quality conditions in Port Townsend Bay, particularly around the ferry terminal and proposed remote vehicle holding area on State Route (SR) 20. It also includes the major freshwater resource near the remote vehicle holding area, Kah Tai Lagoon. Local stormwater systems contributing to the bay are part of the water resources study area, as is the drainage system for the ferry terminal itself. There are no streams or lakes in the study area. The closest inland water body is Kah Tai Lagoon and this surface water resource, which is treated as a freshwater body by the City of Port Townsend, drains to the bay.

The study area for water resources was defined as the area that receives surface water runoff or piped/culverted drainage from the area of proposed improvements.

How were the effects of the project on water resources analyzed?

The effects of the project on water resources began with the collection and review of relevant data and water resources regulations. Based on available site plans, aerial views, information gathered during site visits, drainage plans, drainage profiles, and base maps, localized drainage basins were delineated for the drainage systems operating within the project limits for the ferry terminal and the remote vehicle holding area. Once the drainage basins were delineated, pervious and impervious areas for the ferry terminal, as well as the remote vehicle holding areas, were calculated. Water quality treatment flows as well as water quality treatment volumes were calculated for each identified drainage area to provide a basis for the sizing of stormwater treatment devices such as detention vaults and proprietary treatment devices.

Finally, several other discipline reports being prepared concurrently for this project were reviewed for findings relevant to water resources.

What water resources effects would occur during construction of the project, and what mitigation is proposed?

Surface water effects during construction are expected to be short term. These effects would occur in marine water adjacent to the ferry terminal as a result of dredging, which would disturb bottom sediments. Dredging and the proposed filling of a nearby underwater borrow site would create

turbidity and introduce pollutants to the water column. The suspension and subsequent settling of sediments would have the potential to affect adjacent eelgrass beds.

There may be some water quality effects occurring on the land adjacent to the ferry terminal that might introduce additional suspended solids to Port Townsend Bay near the Ferry Terminal during the construction of a new parking lot and a park. Runoff from disturbed areas or temporary sumps could carry sediment to Port Townsend Bay, causing short-term water quality degradation.

At the remote vehicle holding area, one traffic lane and two vehicle holding lanes to the east-bound side of SR 20 would be provided. The area drains to a nearby marina and Port Townsend Bay. During project construction, effective erosion-control best management practices would be implemented to minimize the possibility of contaminants reaching marine waters. These BMPs would include silt fences and catch basin inserts. Any water generated through dewatering activities would be routed through a settling pond or Baker tank to reduce suspended sediment prior to discharge. These measures would assure that minimal amounts of sediment are transported to the adjacent marina. The BMPs would be inspected on a regular basis to ensure that they are performing properly.

The marine sediments would be tested in any areas that would be disturbed by the project. If contaminants were found, these sediments would be properly removed to minimize the potential for introducing contaminants into the water. Dredging would be conducted using an enclosed clamshell bucket and a split-hull barge to minimize the spread of dredged material in the water column. This would limit the spread of turbidity and resultant redeposition to the area immediately around the dredged location.

The terminal improvement project does not involve construction of a landside building, but it might involve excavations to a depth of 8 feet to install water quality StormFilter vaults. There would also be relatively shallow excavations associated with refurbishing and/or expanding the remote vehicle holding area. Construction is unlikely to encounter substantial quantities of groundwater or to affect its current flow regime. Therefore, the Proposed Action would not substantially affect the groundwater. Although there is a known groundwater contamination issue relating to petroleum hydrocarbons in the study area, current information in the Ecology Stated and Suspected Contaminated Sites List (SSCSL) database (April 25, 2005) indicates that site cleanup is ongoing as an independent project. The database indicates that cleanup began in March 2005 and is expected to be completed in late 2006. Because project construction would occur after completion of the cleanup actions, the Proposed Action would not be likely to encounter contaminated groundwater.

What water resources effects would occur during operation of the project, and what mitigation is proposed?

The project would remove creosote-treated pilings. Creosote is a carcinogen and no longer used as a wood preservative. The removal of these creosote pilings would remove a long-term source of creosote leaching within Port Townsend Bay, a positive water quality benefit.

In accordance with the Washington State Department of Transportation (WSDOT) *Highway Runoff Manual* (HRM) (WSDOT, 2005b) stormwater runoff from both the ferry terminal and the remote holding area would receive basic water quality treatment. The provision of basic stormwater treatment would reduce potentially adverse water quality effects. It will be important to institute a regular maintenance program to ensure that the treatment system operates effectively over the long term.

The ferry terminal has a single drainage system that drains to marine waters via an outfall. Since the terminal discharges to a single outfall in marine waters, basic water quality treatment would be provided to runoff leaving the ferry terminal in accordance with the HRM (WSDOT, 2005b). Runoff from the vehicle holding area would also receive basic water quality treatment before discharging to Port Townsend Bay via Boat Haven Marina.

Because there is little open land available in the vicinity of the ferry terminal as well as the remote vehicle holding area, stormwater treatment in an open pond does not appear to be an option. Treatment could be provided within a buried device at both locations. A water quality treatment volume of 0.35 acre-foot for the ferry terminal and 0.11 acre-foot for the remote vehicle holding area would need to be provided. As this project proceeds into the design phase, a detailed review of available options for stormwater treatment will be undertaken.

Stormwater treatment will be part of the proposed project design. As such it is not, strictly speaking, project mitigation but is instead referred to as a conservation measure. No further water quality mitigation is needed or recommended.

The project would require some small adjustments to SR 20 adjacent to the ferry terminal. Runoff from reconstructed portions of roads or state highways typically requires stormwater quality treatment. The highway stormwater collection system in the vicinity of the ferry terminal drains a relatively large area of highway pavement not affected by the project. It also receives runoff from some adjacent city areas. During project design, the issue of project-related highway runoff needs to be studied further and options for treatment explored. Isolating this runoff from the existing highway drainage system for separate treatment may be problematic. To compensate, one option may be to capture runoff from an adjacent non-study area. This runoff would be routed to the project's stormwater treatment system instead of the project-related highway runoff.

No operational effects to groundwater are anticipated.

What cumulative effects would there be on water resources?

Although there are a number of other development proposals along or near the 1.5-mile stretch of Port Townsend shoreline that could affect water resources, current regulations for new projects and substantial redevelopment projects require that stormwater be treated to remove sediment and associated pollutants prior to discharge. Therefore the treated runoff from these future projects would convey fewer pollutants to Port Townsend Bay than under existing conditions. Therefore, the bay is unlikely to undergo additional degradation in water quality as a result of future development and may experience a slight improvement in water quality conditions.

Overall, no significant cumulative water resource effects in the study area are anticipated.

Are any of the identified effects considered significant?

No significant water quality effects would occur from the Proposed Action. The negative effects on marine waters during construction are short term and highly localized.

What effects on water resources would occur if the project is not built?

If the project was not built, there would be no improvement to the quality of adjacent marine waters due to stormwater treatment improvements. During operation of the new remote holding area, stormwater runoff would receive basic water quality treatment before discharge to Port

Townsend Bay, in accordance with the WSDOT *Highway Runoff Manual* (WSDOT, 2005b). The treatment would reduce potentially adverse water quality effects.

Ferry terminal dolphins, wingwalls, and transfer spans that reach the end of their useful life before 2030 would be replaced, which would reduce this long-term source of creosote contamination. The pilings that remain, however, would continue to leach low levels of creosote into Port Townsend Bay.

During construction of the new remote holding area, effective erosion-control best management practices would be implemented to minimize the possibility of contaminants reaching marine waters.

Fisheries

What is the affected environment?

For the fisheries analysis, the affected environment is the area where potential effects could occur to fish and other aquatic species of interest or their habitats due to the Proposed Action. The area encompassed by the project contains highly modified landscapes and developed areas. The shoreline and areas landward of the study area have been developed by the existing ferry terminal, public parks, docks, and commercial businesses.

Two types of fisheries habitats are found in the proposed project footprint: the nearshore zone (depths of 70 feet or less), and the offshore zone. The greatest extent of potential project effects (pile driving) would occur within a 21.1-mile radius around the project footprint, and thus encompasses nearly all of Port Townsend Bay and Admiralty Inlet to Whidbey Island.

How were the effects of the project on fisheries resources analyzed?

Fish use and aquatic habitat features within the study area were determined by examining existing literature and information from the Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) database.

The fisheries discipline team examined the potential effects of proposed construction activities and then compared these potential effects with published and gray literature. The team quantified and evaluated operational effects using best professional judgment and literature where possible.

What fisheries resource effects would occur during construction of the project, and what mitigation is proposed?

Potential construction-related effects include turbidity, suspended sediment deposition, release of creosote into the water column, and pile-driving noise. All effects but those of pile driving would be temporary with minor or negligible effects. Effects of pile driving would also be temporary but more substantial in nature. However, mitigation measures would reduce effects to levels less than significant. Mitigation measures include best management practices, measures to avoid or minimize effects, and in-water work timing restrictions. The more important measures are as follows:

- All in-water work would comply with the established work windows
- Use of bubble curtains around pile-driving activity

- Presence of a Washington State Ferries inspector assigned to the project to ensure contract and permit compliance
- Initial pile placement using a vibratory hammer

What fisheries resource effects would occur during operation of the project, and what mitigation is proposed?

Potential operational effects include increased shading of the seafloor, loss of eelgrass by shading, alteration of habitat by propeller wash scour and shell hash deposition, loss of seafloor due to piling placement, and diversion of juvenile salmonids further offshore than existing conditions. These effects would all be minor or negligible. The proposed eelgrass mitigation restoration at the borrow pit to the northeast of the Port Townsend ferry terminal would more than outweigh the other operational adverse effects. In addition, the proposed nearshore juvenile salmonid passage features could prevent the diversion of migrant Chinook and chum salmon juveniles further offshore.

What cumulative effects would there be on fisheries or aquatic resources?

No significant cumulative effects on fisheries or aquatic resources are expected.

Are any of the identified effects considered significant?

None of the identified effects on fisheries or aquatic resources is expected to be significant.

What effects on fisheries resources would occur if the project is not built?

With the No Build Alternative, the restoration of the eelgrass bed in the borrow pit to the north of the ferry terminal would not occur. The retrofitting of the terminal with an under-pier fish passage system also would not be built. Stormwater at the terminal that is now untreated would not receive treatment. Ferry terminal dolphins, wingwalls, and transfer spans that reach the end of their useful life before 2030 would be replaced, which would reduce this long-term source of creosote contamination. The pilings that remain, however, would continue to leach low levels of creosote into Port Townsend Bay.

Therefore, fisheries resources would not receive the net benefits of the Proposed Action.

Wildlife

What is the affected environment?

The study area boundary for wildlife was defined as a 7-mile radius around the existing Port Townsend ferry terminal. The area where effects might occur to marine mammals and diving birds was defined using the threshold of behavioral effect from pile driving on marine mammals and birds. Using the most sensitive receptor, marbled murrelet, the distance for behavioral effect was calculated to be approximately 13.4 miles from the terminal in all directions (in water), except where land masses would block sound transmission. Land masses intercept sound within approximately 7 miles of the ferry terminal at the farthest point (Whidbey Island.)

The area encompassed by the project alternatives contains highly modified landscapes and developed areas. The shoreline and areas landward of the study area have been developed by the

existing ferry terminal, public parks, docks, and commercial businesses. Two types of wildlife habitats are found in the proposed construction areas: urban and mixed environs habitat and marine habitat. Animals that use these habitats are generally tolerant of human activity and disturbance.

How were the effects of the project on wildlife analyzed?

To determine the project's potential effects on wildlife, the wildlife discipline team superimposed the project design and footprint (showing the reconfigured trestle and new remote holding area on SR 20) over the habitat map. The team determined potential effects based on the intersection of the project footprint and the habitats. In addition, the team evaluated the proximity between existing wildlife habitat and the project footprint. The analysis considered the importance of the affected habitat, the magnitude of the effect, and the amount (square feet) of habitat types affected.

The wildlife discipline team also considered the effects on wildlife that would result from increased noise levels associated with the project construction. Biologists compared projected noise levels that would be produced during project construction with the noise thresholds for physical injury and harassment effects set by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries.

What wildlife effects would occur during construction of the project, and what mitigation is proposed?

Wildlife in the study area may change their behavior to avoid or acclimate to construction activity and noise. Construction activities that would affect species in the vicinity include noise from pile driving, reconfiguration of the trestle, relocation of Rotary Park, construction of the stormwater treatment vault at the terminal, and construction of the new remote holding area.

Increased human activity and noise associated with in-water construction and pile driving may reduce the use of the surrounding area by marine birds; however, the species that currently use the habitat surrounding the existing ferry terminal would likely continue to use the remaining habitat. Construction of the holding area and relocation of Rotary Park would result in a temporary displacement of wildlife to adjacent habitats. In-water project construction would cause temporary turbidity, which could reduce wildlife use of the area during construction. Extension of the trestle would reduce marine habitat by 756 square feet and thereby reduce wildlife use accordingly; this habitat loss would not reduce wildlife use of the larger project vicinity substantively.

Marine mammals and birds would likely avoid the study area during construction. Underwater noise (sound pressure level) has the potential to affect marine wildlife and birds. Mitigation measures such as construction timing would minimize the potential for adverse effects.

The primary mitigation measure to minimize effects on marine species would be compliance with the in-water work windows for wildlife as specified by NOAA Fisheries, the Washington Department of Fish and Wildlife, and USFWS. Recommended measures to minimize the effects of pile driving on marine birds and marine mammals include:

- Adhere to timing restrictions such as in-water work windows.
- Use bubble curtains or other sound attenuation devices.
- Maintain the presence of a Washington State Ferries inspector assigned to the project to ensure contract and permit compliance.

- Ramp up noise gradually to warn marine mammals and birds of impending pile driving.

What wildlife effects would occur during operation of the project, and what mitigation is proposed?

No urban and mixed environs habitat or marine habitat would be lost as a result of the Proposed Action. Rotary Park would be relocated, but wildlife use of this habitat for nesting and feeding would not be reduced despite relocation of the park.

Human activity and noise associated with parking and loading vehicles over-water would continue in the vicinity of the ferry terminal. Species that currently use the habitat surrounding the existing ferry terminal would likely continue to use the remaining habitat.

Water quality would be improved during operation of the project due to improved water quality treatment and as a consequence of removal of creosote-treated pilings. No operational mitigation measures are proposed for the project.

What cumulative effects would there be on wildlife?

Construction of the Port Townsend Ferry Terminal Preservation and Improvement Project is proposed to occur between 2008 and 2010. Construction and operation of other reasonably foreseeable (i.e., planned or programmed) projects in the vicinity of the Proposed Action may also occur during this timeframe, independent of the Proposed Action. The cumulative effects to wildlife and wildlife habitat resulting from construction or operation of these other independent projects, along with the Proposed Action, would vary depending on their actual footprint and timing of construction activities. If access to the Kah Tai Lagoon Park by people and their pets waiting for the ferry is limited, cumulative effects associated with this project would be negligible.

Are any of the identified effects considered significant?

The Proposed Action is not expected to result in any significant effects on wildlife or wildlife habitat, including threatened and endangered species. The effects on wildlife would be limited to:

- Wildlife avoidance of the project area during construction, with the greatest avoidance occurring during pile-driving activities
- A loss of 756 square feet of sea floor habitat, which is a very small portion of the habitat available for marine species of wildlife using the project area.

What effects on wildlife would occur if the project is not built?

No direct effects to wildlife would occur if the terminal improvements were not constructed. Critical terminal components (dolphins, wingwalls, and transfer spans) that reach the end of their useful life before 2030 would be replaced. Some creosote-treated pilings could remain. Water quality in the vicinity of the ferry terminal would continue to be affected by the presence of these pilings and by inadequately treated runoff at the ferry terminal site. Restoration of eelgrass at the subtidal borrow pit would not occur. The new remote holding area on SR 20 would not result in a loss of wildlife habitat.

Hazardous Materials

What is the affected environment?

The existing Port Townsend ferry terminal was constructed in 1982. Previously, the site was occupied by a Standard Oil Company dock since at least the early 1900s. Standard Oil later became the Chevron Products Company and is now known as ChevronTexaco. The former Standard Oil bulk fuel terminal, also known as the Chevron Bulk Fuel Terminal, was located on the north side of Water Street near the toe of a steep bluff. The former Chevron Bulk Fuel Terminal site has known soil and groundwater contamination. The nature and extent of the groundwater and soil contamination is currently being investigated. Other than the Chevron Bulk Fuel Terminal, the proposed project site is, and has been since development began in the area, primarily surrounded by retail establishments.

The proposed remote holding area on SR 20 is located north of an area that has historically been used as a dry dock and boat yard. The Boat Haven Marina, owned and operated by the Port of Port Townsend, is a marina and industrial park that hosts both marine and non-marine commercial and retail establishments, including boat building, repairs, a household hazardous waste transfer facility, restaurants, and manufacturing facilities. To the north of the remote holding area is Kah Tai Lagoon, a wetland complex previously connected to Port Townsend Bay by a series of brackish wetlands.

For the purpose of this analysis, the hazardous material study area extends one mile from the ferry terminal and from the center of the remote holding area. Sites located within ½ mile of the terminal or the remote holding area are considered to have the potential to affect the project. One substantially contaminated site is located within ½ mile of the Proposed Action facilities. There are no known reasonably predictable sites within ½ mile of the Proposed Action facilities, although there are 24 sites listed on various environmental regulatory agency databases. These sites do not appear to pose potential concerns to the Proposed Action facilities.

How were the effects of the project on hazardous materials analyzed?

The hazardous materials analysts completed the following tasks:

- Identified the range of potentially contaminated properties through a review of regulatory agency database lists and supplemental historical research.
- Evaluated all properties based on their location relative to the project study area and considering additional site-specific environmental data available in regulatory agency files and previous studies.
- Summarized environmental conditions at the primary known or suspected contaminated properties within the project study area.
- Evaluated potential effects that known or suspected contamination may have on project development, including property acquisition and construction activities.
- Identified mitigation measures to avoid or control contaminated site effects on the project.

What hazardous material effects would occur during construction of the project, and what mitigation is proposed?

Construction activities for the Proposed Action would result in several types of effects related to hazardous materials. The effects and recommended mitigation measures are as follows:

- Contaminated soil and groundwater may be encountered or removed during construction. Mitigation measures for the removal of contaminated soil and groundwater would include requiring the construction contractor to have a soil construction contingency plan, a stormwater pollution prevention plan (SWPPP), and a spill prevention, control, and countermeasures (SPCC) plan, and to be familiar with the Washington State Department of Ecology's Guidance for Remediation of Petroleum Contaminated Soils (Washington State Department of Ecology, 1995). These documents would help to identify procedures, chains of responsibility, and concentration levels requiring cleanup in the event contaminated soil is encountered. The development of the SWPPP would assist in the handling of contaminated water. It addresses the procedures, equipment, and materials necessary to avoid erosion during excavation or soil stockpiling. It also addresses the diversion of stormwater, surface water, or groundwater that seeps into an excavation.
- Air quality could be affected by release of contaminants and dust during construction and handling of contaminated media resulting in worker and public exposure. The use of personal protective equipment, contingency planning, and secondary containment for hazardous material would be required for contractors. Public access to the project construction zone would be restricted.
- Potentially hazardous materials such as creosote-treated timber pilings would be generated. The creosote-treated timber pilings would be disposed according to applicable regulations. Potential exemptions as dangerous waste are available for treated wood if it is a state-only dangerous waste.
- Hazardous building materials (primarily asbestos and lead-based paint) could be released to the environment as a result of demolition. Preconstruction investigation and testing would be needed to determine the presence and quantities of these hazardous building materials so that these materials can be appropriately abated prior to demolition.
- Encountering previously unidentified product pipelines related to the operation of the former Chevron Bulk Fuel Terminal could result in releases to the environment. These pipelines are known to exist under Water Street. Mitigation measures would include pre-construction planning such as conducting geophysical surveys prior to utility trenching work, preparing an SWPPP and an SPCC plan, and planning for contracting contingencies for removal and disposal of product pipelines or contaminated soil.
- Potentially contaminated sediment could be disturbed if the sediments are dredged (if the largest ferry vessel is selected). Sediment characterization should occur prior to construction to support design and permitting requirements. Based on the results from sediment characterization, the dredged sediments would be disposed of according to applicable regulations.

- Accidental releases of hazardous substances during construction, a hazard common to all construction projects, are particularly acute for construction over water or with stormwater runoff to Port Townsend Bay. The development of a stormwater pollution prevention plan, an SPCC plan, and the implementation of best management practices for runoff from the construction site would be required.

What hazardous materials effects would occur during operation of the project, and what mitigation is proposed?

Property acquisition associated with the Proposed Action includes the City-owned parking lot of the US Bank and Rotary Park. This property has the potential to be contaminated due to possible historical releases from the adjacent former Chevron Bulk Fuel Terminal. ChevronTexaco is currently conducting a remedial investigation at the former Chevron Bulk Fuel Terminal located on the north side of Water Street and at the parking lot of the US Bank and Rotary Park.

In acquiring a contaminated property, WSF could become liable for site cleanup. RCW 70-105D.040 identifies persons liable for facility/property remediation as the current or past property owner/operator. In situations where there is more than one liable party, each party is jointly and severally liable for costs associated with cleanup of a site and costs to repair damages to natural resources.

In order to minimize long-term liability associated with the acquisition of the City-owned parking lot of the US Bank and Rotary Park, it is recommended that WSF enter into discussions with WDOE, the City as property owner, and ChevronTexaco regarding the scope and extent of the ongoing investigation. By engaging WDOE, the City, and ChevronTexaco at this time, WSF would then have the opportunity to verify that the remedial investigation and subsequent remedial cleanup actions, if any, were conducted in a manner that would minimize the WSF's long-term liability associated with the acquisition of the property.

WSF must also perform "all appropriate inquiry" as required under Section 101(35)(B)(ii) and (iii) of CERCLA prior to obtaining the property. If the inquiry identifies soil and/or groundwater contamination that has not already been remediated by ChevronTexaco under the voluntary cleanup program, WSF may then pursue a right of action with the City and/or ChevronTexaco for cost associated with cleanup of the property and cost to repair damages to natural resources, if necessary.

The potential for hazardous material spills from transport trucks would be reduced as a result of the improved traffic flow in the project area. The replacement of the creosote-treated pilings with steel structures would result in improved surface water and sediment qualities. No mitigation measures would be required for these operational effects.

Are any of the identified effects considered significant?

Washington State Environmental Policy Act (SEPA) regulations do not provide thresholds to determine if hazardous materials effects are significant. Historical releases from the former Chevron Bulk Fuel Terminal may have resulted in contaminated soil and groundwater in the project area, including at the parking lot of US Bank which is proposed for property acquisition. If unresolved, the acquisition of the parking lot of US Bank can present a potential long-term liability for WSF. In addition, contamination, if present, would have the potential to affect construction, such as requiring the use of specially-trained construction staff and special management of contaminated soils.

In addition, if the largest vessel is selected, dredging of sediment would be necessary. While the extent of any contamination is unknown, sediments have the potential (based on current information) to be contaminated due to the historical presence of the Standard Oil dock and releases of polynuclear aromatic hydrocarbons from creosote-treated pilings. Management and disposal of sediments, if found to be contaminated, would be costly.

While the effects of these properties can be managed using the mitigation recommended, they cannot be avoided.

What environmental effects associated with hazardous materials would occur if the project is not built?

With the No Build Alternative, removal or cleanup of potentially hazardous materials in the project study area, including contaminated soil or sediments (if the largest vessel is selected), would not occur and the potential uncontrolled migration of existing contaminants may continue.

Ferry terminal dolphins, wingwalls, and transfer spans that reach the end of their useful life before 2030 would be replaced, which would reduce this long-term source of creosote contamination. The pilings that remain, however, would continue to leach low levels of creosote into Port Townsend Bay.

The construction effects of the new remote holding area would include the possibility of encountering previously unidentified pipelines and USTs, accidental releases of hazardous substances during construction, and construction worker and public exposure to hazardous materials uncovered, released, or spilled during construction.

The operation effects of the new remote holding area would include the potential for hazardous material spills from transport trucks using the area.

Noise

During the course of planning for the Proposed Action, the noise levels associated with the existing facility and with the improved ferry terminal were analyzed to determine noise level impacts at residential properties within the study area surrounding the Proposed Action. Potential noise levels generated from the Proposed Action originate from changes in roadway infrastructure, non-motorized facilities, and transit services, as well as traffic operations related to ferry customers waiting for ferries and unloading from arriving ferries. Based on the noise survey data collected for the Washington State Ferry vessel fleet (Alion Science and Technology, 2005), the airborne noise generated by the ferry vessels themselves does not appear to be as significant as the noise created by vehicular traffic departing and entering the ferry terminal. Noise generated by the ferry can only be heard above ambient noise levels at rural ferry terminals. These findings are consistent with the noise analysis performed for this project demonstrating that vehicular traffic noise is the dominant source of noise.

The noise-generating source determines the type of methodology used to assess its noise-associated impacts. This noise analysis uses procedures, noise prediction software, and impact criteria developed by the Federal Highway Administration to assess noise impacts from changes to local streets and vehicular traffic generated by the Proposed Action. Federal Transit Administration (FTA) guidelines were used to analyze impacts at the vehicle holding areas since they operate much like park-and-ride lots, which are best analyzed using the FTA noise analysis tool as

discussed below. This noise analysis compares the potential increase in noise levels due to the Proposed Action to noise standards established by FHWA and FTA.

What is the affected environment?

The affected environment consists of properties within and adjacent to the project footprint that may be affected by construction and/or operation of the Proposed Action. The land uses within the study area are a combination of commercial and residential, with the more noise-sensitive land use category being residential. FTA and FHWA noise guidelines were established to protect areas of frequent human use. Residential properties within 500 feet of the Proposed Action footprint were identified and noise level measurements were then taken from these properties to obtain an existing noise level baseline.

How were the effects of the project on noise analyzed?

Sensitive receptors were identified that represent residential properties in the study area. Background noise level measurements were obtained and future noise levels were predicted at these locations for the future No Build Alternative and Proposed Action using FHWA and FTA modeling analysis tools. The future predicted noise levels from the No Build Alternative and Proposed Action were compared to determine whether there would be a substantial increase in noise levels.

What noise effects would occur during construction of the project and what noise mitigation is proposed?

During the construction phase, noise levels would temporarily increase near construction sites due to heavy equipment use and construction materials transport. Noise levels generated during construction vary widely, reflecting the differences in site conditions and construction phases. During some phases, for example, equipment may not operate or may sit idle for long periods of time.

High noise levels can be expected at locations close to the project during certain phases of construction. FHWA's Roadway Construction Noise Model was used to identify the construction activities with the greatest potential for noise impacts at nearby commercial and residential sites. The closest residential site is located on top of a bluff approximately 625 feet northwest of the terminal. The closest commercial site is a bank approximately 80 feet north of the terminal.

The City of Port Townsend's noise ordinance (Chapter 9.09, Noise, Ordinance 2831, 2003) establishes maximum permissible noise levels. Construction noise is exempt from these standards during daytime hours (7 AM to 7 PM on weekdays and 9 AM to 7 PM on weekends and holidays) if the noise-receiving property is residential.

Construction noise mitigation measures are recommended to reduce noise impacts. These include:

- Scheduling of construction activities between 7 AM and 7 PM during weekdays. If nighttime work is necessary, the City's construction permit would allow nighttime work and it would specify the allowable hours of work.
- Minimizing construction during the peak tourist business season or during special events and festivals.

- Planning the dump truck haul routes to minimize travel through residential areas.
- Sequencing construction to avoid the simultaneous use of multiple noisy machines.
- Using utility power rather than diesel-powered electric generators, whenever possible.

What noise effects would occur during operation of the project, and what mitigation is proposed?

The Proposed Action would increase the terminal's existing vehicle holding area capacity and construct an additional remote vehicle holding area west of the terminal on East Sims Way (SR 20). Increasing the terminal's vehicle holding capacity would require relocation of the adjacent Rotary Park to the west side of the terminal entrance. In addition, replacing the existing ferry vessel type with one of the two larger vessel options being considered (mid-size or largest vessel) would increase the vehicle capacity of each Port Townsend-Keystone sailing and would affect traffic volumes in the study area. Even if the new ferry vessel is similar in size to the existing vessels, traffic would increase due to increased demand. Traffic modeling showed that vehicle volumes would be slightly higher for the smallest and largest vessel options than for the future No Build option. Volumes with the mid-size vessel option would be slightly less than for the future No Build. These differences in vehicle volumes as a result of vessel size and the increased holding area capacity would affect the noise levels in the study area.

The FTA has developed a spreadsheet assessment tool to analyze the noise impacts of transit-related developments such as light rail, bus services, and park-and-ride lots. The proposed holding area facilities have operational similarities to a park-and-ride facility, therefore warranting the use of the FTA spreadsheet assessment tool to predict noise levels from expanding the existing vehicle holding area on the trestle and construction of the new remote vehicle holding area west of the terminal on East Sims Way (SR 20). The FTA spreadsheet tool compares existing day-night noise equivalent levels (L_{dn}) to predicted project noise levels. The noise levels in the vicinity of the Proposed Action were measured for a 24-hour period to determine the day-night equivalent noise level. The project's surrounding land use types are Category 2 (sensitive receptors such as residences, hospitals, and hotels) and Category 3 (daytime use areas such as the Rotary Park). The output from the FTA spreadsheet is a 24-hour noise level, or L_{dn} , which measures and accounts for moment-to-moment fluctuations in the decibel (dBA) level due to all noise sources, and adds 10 dBA to nighttime levels to account for residents' need for a quiet environment while sleeping. FTA uses this standard noise metric to assess noise impacts to the Category 2 land use type.

No analysis was done for the proposed remote vehicle holding area because there are no residential receivers nearby. The potential noise impacts from the expanded vehicle holding area at the terminal are shown below in Exhibit 1. The Proposed Action at the horizon year 2030 would produce a potential 1-dBA noise increase over existing noise levels (the logarithmic addition of $41 + 46 L_{dn} = 47 L_{dn}$). This would not be considered an impact under FTA criteria.

FHWA modeling analysis tools were used to obtain future predicted noise levels associated with the various ferry vessel sizes being considered under the 2030 Proposed Action. The differences in vessel capacity would have a minimal effect on the vehicle volumes under the Proposed Action; therefore there would be minor changes in traffic noise levels compared to the future No Build Alternative. All traffic noise levels under the Proposed Action would not approach or exceed the FHWA Noise Abatement criteria limit of 67 dBA.

EXHIBIT 1. PREDICTED NOISE LEVELS DUE TO THE EXPANDED TERMINAL FOR HORIZON YEAR 2030								
Sensitive Receiver	Daytime (dBA)		Nighttime (dBA)		24-hour L _{dn} (dBA)		Existing Noise Exposure plus Project Impact (dBA L _{dn})	FTA Noise Impact Level (dBA L _{dn})
	Existing	Predicted	Existing	Predicted	Existing	Predicted		
Residential backyard (LT-1)	44	34	34	34	46	41	47	53-59

For the Proposed Action, none of the vehicle vessel capacity options being considered or the traffic patterns associated with the increased vehicle capacity of the vehicle holding areas would generate noise levels that approach or exceed the FHWA or FTA Noise Abatement Criteria. Therefore, no noise mitigation would be necessary for operational traffic noise.

Are any of the identified noise effects considered significant?

No significant noise effects are anticipated. The future noise levels associated with the Proposed Action from vehicular traffic are not predicted to approach or exceed the FHWA or FTA Noise Abatement Criteria. In addition, the sensitive receptors in the study area would experience only minor changes in noise levels compared to the No Build Alternative.

Noise resulting from vehicles moving within the holding area at the terminal would not cause increased noise impacts to the closest sensitive receptor or to the relocated Rotary Park. Although the expansion of the vehicle holding area would shift holding lanes on the trestle closer to the adjacent US Bank building, the vessel capacities under consideration do not generate large increases in vehicular traffic compared to the No Build condition. Sensitive receptors are not located near the proposed remote vehicle holding area on SR 20 and therefore noise levels were not assessed at that location. However, it is anticipated that the proposed remote holding area would not produce a noticeable increase in noise levels at this location.

What noise effects would occur if the project is not built?

With the No Build Alternative the vehicle volumes in the study area would increase over existing levels due to increased demand for ferry service as well as population growth. Under the 2030 future No Build Alternative, predicted noise levels would increase over existing levels, but would not approach or exceed the FHWA or FTA Noise Abatement Criteria levels.

Energy

What is the affected environment?

The affected environment for the Proposed Action is the area within and adjacent to the project footprint that may be affected by construction and/or operation of the project. The affected environment for the energy and the transportation analyses (see the *Transportation Discipline Report*) are the same and incorporate the access route to the ferry terminal along SR 20. It extends

to Taylor Street on the east and Haines Place to the west. The western limit includes the potential remote holding area.

How were the effects of the project on energy analyzed?

Energy is consumed during the construction and operation of the project. Energy effects during construction were estimated by applying energy consumption factors developed by the California Department of Transportation to project construction costs. The energy discipline team estimated operational effects from the vehicle miles traveled (VMT), average speed (mph), fuel consumption rate (mpg), and gallons consumed estimates presented in the *Sim Traffic Performance Reports* (CH2M HILL, 2006a, b, c). The team then calculated the total amount of energy (in millions of British thermal units or MBtu) consumed in the study area under the Proposed Action. Since estimates from the Sim Traffic Performance Reports showed little difference between the smallest and largest vessel options, energy consumption of the mid-size vessel option was not analyzed. The energy consumed by each ferry vessel was estimated by converting metric tons of diesel consumed per vessel option, as presented in the *Ferry Option Resource Conservation Tech Memo* (Alion, 2006), to gallons of diesel. An energy (Btu) conversion rate provided by U.S Department of Energy (2006) was then applied to the gallons of diesel per hour estimates.

The Sim traffic model used in this analysis applies the same input data as the Synchro model used in the *Transportation Discipline Report*. The Synchro model referenced actual distances from aerial maps to build the model and used the Washington State Highway Log as a cross reference. The Sim traffic reports were used to complete the analysis because they provided the necessary metrics (i.e., vehicle miles traveled, miles per hour, miles per gallon, gallons consumed), which the Synchro model did not. Further detail about the Synchro model is presented in the *Transportation Discipline Report*.

What energy effects would occur during construction of the project, and what mitigation is proposed?

The Proposed Action would consume approximately 163 thousand MBtu during construction, approximately the energy consumption of 177 homes. The energy consumed during construction would be spread over the entire construction period of about 1.5 years.

Construction plans should make every attempt to minimize roadway congestion and should adhere to construction practices that encourage efficient energy use, such as limiting idling equipment, encouraging carpooling of construction workers, and locating staging areas near work sites.

What energy effects would occur during operation of the project, and what mitigation is proposed?

By 2030, the Proposed Action with the small vessel would have the lowest vehicle energy consumption of any of the alternatives by consuming approximately 24.2 MBtu of energy per hour. In comparison, the No Build alternative would have the highest vehicle energy consumption by consuming approximately 24.9 MBtu of energy per hour.

The largest vessel option of the Proposed Action is expected to have the lowest energy consumption of 2.1 million MBtu between 2011 and 2030 because it would make fewer trips per day compared to the other Proposed Action vessel options. In comparison, the smallest vessel is expected to have the highest energy consumption of 2.7 million MBtu.

No operational mitigation measures are anticipated because each of the Proposed Action vessel options, with respect to energy generated by vehicles in the study area, results in net savings in energy consumption when compared to the No Build Alternative. Also, no mitigation measures are anticipated for any of the ferry vessel options because all of the proposed ferry vessels would be more fuel efficient than the current Steel Electric Class vessels given the assumed number of trips required by each vessel because of future ridership demand.

Are any of the identified effects considered significant?

There are no identified effects on energy that would be considered significant.

What effects on energy would occur if the project is not built?

The No Build Alternative would involve construction of the new remote holding area and preservation of critical terminal components at a total cost of \$11.6 million. Energy consumption would be about 99,253 MBtu, which is approximately the energy consumption of 79 homes for one year.

With the No Build alternative, the hourly VMT for the study area would be approximately 2,148 miles in 2030. This hourly VMT would be lower than either of the Proposed Action vessel options. Vehicles operating in the study area would consume approximately 219.7 gallons of fuel per hour, or 24.9 MBtu of energy. Although the hourly VMT for the No Build Alternative would be lower than either of the Proposed Action vessel options, the amount of energy consumed would be higher because traffic in the study area would operate less efficiently.

The existing Steel Electric Class vessels are assumed to be operational through 2030 if nothing were built at the ferry terminal. These vessels would consume approximately 1.5 million MBtu of energy between 2011 and 2030 and would continue to operate under the existing schedule.

Land Use

What is the affected environment?

The land use analysis team defined the study area as the parcels adjacent to the ferry terminal on Water Street (SR 20), and the city blocks adjacent to SR 20 between Taylor Street, east of the terminal, and Haines Place, west of the remote holding area. This study area is where existing or proposed land uses could be affected by the proposed project and by ferry-related traffic.

General land use in the project area includes a variety of commercial uses, including restaurants, small retail and service businesses, offices, and motels. A community park and bank are located directly adjacent to the northeast side of the Port Townsend Ferry Terminal entrance and exit lanes to SR 20. Land directly southwest of the terminal is public shoreline adjacent to SR 20. Several retail and service businesses are directly across SR 20 from the terminal entrance/exit area.

Land use adjacent to the remote holding area on SR 20 includes the Boat Haven Marina to the south and Kah Tai Lagoon Park to the north.

How were the effects of the Proposed Action on land use analyzed?

The land use team compared the Proposed Action with existing land use conditions and land use plans to determine if the proposed changes in land use were compatible with these plans, and if there were any plans that would conflict with the proposed project.

What effects on land use would occur during construction of the project, and what mitigation is proposed?

In-water work would occur around the existing ferry terminal trestle, in order to replace ferry terminal components, extend the trestle, and potentially dredge to accommodate larger vessels. Extension of the trestle would result in loss of eelgrass bed habitat. In order to complete mitigation for loss of eelgrass habitat, Washington State Ferries would lease or obtain a temporary easement for approximately 135,000 square feet of sub-tidal land owned by the Washington State Department of Natural Resources (WDNR). If dredging were needed for a larger ferry, WSF would need to lease or obtain a temporary easement from WDNR for dredging an additional 102,500 square feet of sub-tidal land that is outside their current lease.

Businesses near the ferry terminal may be affected by construction activity and traffic. Congestion in the study area would likely increase because of short-term lane closures and other construction related activity. This may cause some customers to avoid this area during construction, but new business from construction workers may offset this loss. See the *Port Townsend Ferry Terminal Preservation and Improvements Project Economics Discipline Report* for further discussion of impacts to businesses. The existing Rotary Park would be temporarily closed during construction while the toll booths and vehicle lanes are constructed in the location of the existing park and the new park is constructed. Construction impacts are not expected to cause a change in land use.

Potential mitigation measures to avoid or minimize adverse effects include the following:

- WSF will prepare and implement a Transportation Management Plan. The contractor will post signs to show detour routes if periods of closure are needed.
- WSF will provide public information about construction activities. The public will be informed that businesses are open during construction and encouraged to continue patronage.
- WSF will provide adequate signage to detour access to businesses.

No indirect effects are anticipated as a result of construction of the Proposed Action.

What effects on land use would occur during operation of the project, and what mitigation is proposed?

During operation, effects to land use would be minimal and would be limited to the displacement of Rotary Park and 16 overflow parking spaces for the adjacent bank. Rotary Park would be relocated to a new, more accessible location on the southwest side of the ferry terminal. This new park location would also provide access for park users to the public beach area southwest of the ferry terminal. The adjacent parking lot to the east of the ferry terminal may be restriped to mitigate for the lost parking lot, and could create up to an additional 23 parking spaces. This could result in a net gain of seven spaces for the bank and other nearby businesses.

WSF would obtain a permanent easement of approximately 102,500 square feet of additional sub-tidal land from WDNR for dredging in order to extend the trestle. WSF would also purchase approximately 135,000 square feet of sub-tidal private property to the northeast of the ferry terminal for eel grass mitigation.

All of the land to be acquired is undeveloped and sub-tidal, and this acquisition would not affect any surrounding land uses. No mitigation would be required during operation of the project.

No indirect effects are anticipated as a result of operation of the Proposed Action.

What cumulative effects would there be on land use?

Although there is planned residential development of the current Indian Point holding area, it has not yet been determined when development would begin. Depending on when construction begins for the Indian Point development, a temporary holding area may need to be identified if the new remote holding area is not yet constructed. Changes in ferry traffic queuing may temporarily affect land owners within the study area until the remote holding facility is constructed. No other proposed transportation project or development plans in the vicinity of the project were identified that would result in additional cumulative effects.

Are any of the identified effects considered significant?

A significant land use effect would result if the project caused a change in land use that was found to be inconsistent with the adopted land use plans and regulations within the study area. No significant effects on the land use in the study area are anticipated from the Proposed Action.

What effects on land use would occur if the project is not built?

Land use would not change under the No Build Alternative. Land uses adjacent to SR 20 could eventually be adversely affected by traffic congestion related to ferry traffic, as ridership increases.

Social and Recreation

What is the affected environment?

The proposed Port Townsend Ferry Terminal Preservation and Improvement Project is located in the city of Port Townsend in Jefferson County, Washington. The study area for the project is defined as a 1,000-foot buffer around SR 20/Sims Way from Haines Place to the ferry terminal. This study area was chosen because the construction and operation effects would occur within this area.

How were the effects of the project on social elements analyzed?

The social discipline team analyzed the effects that the Proposed Action would have, both positive and negative, on the social elements of the surrounding area. This report includes an analysis of community cohesion; regional and community growth; community facilities; recreation; and pedestrian, bicycle, and transit facilities. Methods used for the social analysis included a site visit, communications with local planners, reviewing planning documents, reviewing other discipline reports prepared for this project, and data from the U.S. Census Bureau.

What social effects would occur during construction of the project, and what mitigation is proposed?

Effects during construction are considered short-term in duration when compared to the operational life span of the project. Construction of the Proposed Action is expected to last 1.5 years and construction effects would end when construction is complete. Effects during construction would include the following:

- Noise levels would increase as a result of construction activities, especially pile-driving activities.
- Construction activities would detract from views and visual quality due to the staging of construction equipment and construction activities.
- Rotary Park would be unusable during the relocation of the park.
- Construction would not have any effect on community facilities because most of these facilities are located outside of the study area and are located on the bluff that overlooks Puget Sound.

Construction mitigation measures would include the following:

- WSF would use the project website and distribute newsletters to provide public information about the project.
- WSF would provide residents and local businesses with advance notification of the project schedule.
- WSF would ensure access is maintained for pedestrians, bicyclists, and transit through the construction areas and identify and provide signage for detour routes for pedestrian and bicycles.
- WSF would schedule construction activities between 7 AM and 7 PM during weekdays. If nighttime work is necessary, the City's construction permit would specify the allowable hours of work and WSF would notify nearby residents and businesses.
- WSF would control fugitive dust emissions from construction activities using measures such as spraying exposed soils with water or other suppressant, minimizing dust emissions during transport of fill material or soil by wetting down, providing wheel washers to remove particulate matter, and covering dirt, gravel, and debris piles.
- Construction contractors would be required to keep equipment in good mechanical condition and to equip engines with mufflers to minimize exhaust emissions and noise.
- Pile-driving would only be conducted within approved in-water work windows and during normal construction hours.

What social effects would occur during operation of the project, and what mitigation is proposed?

Operational effects are those effects on the social elements that would occur after construction has been completed. Effects during operation are primarily beneficial and would include:

- The Proposed Action would not bisect or disrupt any established communities, or change the existing community character.
- The expanded terminal would allow more vehicles to be staged at the terminal and would minimize effects on the community by staging all the vehicles in one location for a majority of the year.
- The relocation of Rotary Park would allow access to the waterfront and would be ADA compliant.
- The removal of creosote pilings and the stormwater improvements would have a beneficial effect on water quality. Good water quality is important in maintaining human health and wildlife habitats.
- The Proposed Action would have no adverse effects on regional and community growth or pedestrian, bicyclist, and transit facilities. A portion of the bike lane would be relocated away from SR 20, which may increase safety for bicyclists who would not have to ride adjacent to SR 20.

The only identified indirect effect associated with the Proposed Action would be the potential increase in usage of Rotary Park due to the relocation of the park, which would increase its visibility from SR 20/Water Street. With the potential for increased usage of the park there is also the potential for additional operation and maintenance costs, and increased conflicts between pedestrians and bicyclists accessing the park and vehicles entering or exiting the ferry terminal. There is also a possibility of vandalism of the public art that is envisioned within the relocated park.

The direct and indirect effects associated with the Proposed Action would have mostly beneficial effects on the social elements.

The only negative effect would be the additional traffic during the off-loading of the ferry. Mitigation for this effect would include traffic signal phasing revisions which would allow ferry traffic along SR 20 to move more efficiently along SR 20 and minimize congestion.

What cumulative effects would there be on social elements?

The Proposed Action would not result in any cumulative effects on social elements.

Are any of the identified effects considered significant?

None of the identified effects would be considered significant.

What effects on social elements would occur if the project is not built?

Under the No Build Alternative, social resources may experience negative effects because of the expected increase in ferry demand. Even with the new remote holding area, the increased number of ferry customer vehicles may cause congestion. This congestion may have a negative effect on community cohesion.

With the No Build Alternative there would be no improved waterfront access associated with a relocated Rotary Park. Some of the creosote pilings would not be removed under the No Build Alternative, and the people who fish and enjoy use of the waters of Port Townsend Bay would not gain as much beneficial effect of improved water quality and sediment quality from the removal of this toxic chemical.

If the existing ferry vessels are retired within the analysis horizon, there could be no replacement vessels for up to 4 years. This would have both positive and negative effects on the community. A break in service would remove ferry-related traffic from the area, which would reduce congestion and noise and help to improve the quality of life for those living and commuting in the Port Townsend area. However, for those who use the ferry to commute to work or to other destinations, or who rely on ferry traffic for their business, there may be negative effects associated with the loss of the ferry. Refer to the *Economics Technical Memorandum* for complete information on the economic effects related to the loss of ferry service.

Economics

What is the affected environment?

The affected environment for economics includes the population, household, employment, and tax revenue base for the community of Port Townsend. Because Port Townsend plays an important role in the overall regional economy and because of data limitations, Jefferson County data are provided when more localized data were not available. The study area used for the economics section of this analysis includes the City of Port Townsend as well as Jefferson County.

How were the effects of the Proposed Action on economics analyzed?

The economics team analyzed property tax revenue changes, effects on residences and businesses during construction, and local and regional economic effects during operation.

What economic effects would occur during construction of the project, and what mitigation is proposed?

During construction of the project, businesses and residents would be subject to increased noise, dust, and construction-related traffic delays. Access to some businesses may be modified, which could negatively impact sales. Construction activities would likely provide economic benefits in the form of direct and indirect employment for local residents. The project may also benefit local restaurants and shops as construction workers purchase goods and services from local providers.

Construction methods and procedures to avoid, minimize, or mitigate project effects are recommended as follows:

- Washington State Ferries would provide public information about construction activities and encourage continued patronage of businesses affected by construction.

- WSF would provide adequate signage to businesses whose access has been modified during construction.

What economic effects would occur during operation of the project, and what mitigation is proposed?

During operation of the Proposed Action, businesses located near the terminal could benefit as travelers purchase goods and services while waiting in the larger holding area. The project is not expected to require the relocation of any businesses or residences and would not impact property tax collections. However, the project would displace approximately 16 parking spaces utilized by US Bank customers.

Secondary effects associated with the project may include increased retail activity targeting customers waiting for the ferry in the larger holding area located at the terminal. This is not expected to be a substantial effect.

Recommended mitigation measures during operation of the project include:

- WSF would restripe the bank/strip mall parking lot just east of the terminal with 90-degree stalls to provide a more efficient use of the area, resulting in a net increase of approximately seven stalls.
- WSF would coordinate with the City and US Bank regarding potential parking issues. If additional parking is warranted, opportunities for replacement would be examined during final design.

Are any of the identified effects considered significant?

An economic effect would be significant if the project was perceived to cause an economic downturn. This would mean lost employment or income to a business district, or revenue losses to a taxing jurisdiction of 2 to 3 percent.

No significant effects on the economics of the study area are anticipated from the Proposed Action. The net effect of the Proposed Action on the economic health of the study area is expected to be positive.

What effects on economics would occur if the project is not built?

Under the No Build Alternative, critical terminal components such as wingwalls, dolphins, and transfer spans that are past their useful design life would be replaced. Residents and businesses may be slightly inconvenienced by effects related to the maintenance projects such as increased congestion, modified access, increased noise and dust, and retail sales fluctuations. The local area would likely experience effects similar to existing maintenance-related activity. Residents or businesses could also be inconvenienced somewhat by the effects of construction of the new remote holding area. These effects could include increased congestion, potentially creating a negative impact on some businesses and a positive impact for others. The local area would benefit from some construction-related employment and spending.

Under the No Build Alternative, no taxable property would be acquired; thus no direct effects on property tax collections are anticipated.

If the Steel Electric vessels are retired prior to 2030 without a replacement, there could be a break in the current ferry service on the Port Townsend-Keystone route. The economics discipline team identified a worst-case alternative travel route to Port Townsend if a break in ferry service were to occur. The Keystone Alternative Route would begin in Keystone and travel to Port Townsend via Clinton, Mukilteo, Edmonds, and Kingston. The Keystone Alternative Route would add 100 miles of driving to the existing route and would require two ferry rides and approximately 2.5 additional hours of travel time. If all travelers were to use this route, the estimated additional annual user cost would be \$18.7 million for autos and \$1.6 million for commercial trucks.

Public Services and Utilities

What is the affected environment?

The affected environment for public services includes fire protection, emergency medical service, and police protection. The City of Port Townsend provides fire protection, emergency medical service, and police protection within the project study area. The Washington State Patrol also provides police protection within the study area.

Potentially affected utilities in the study area include electrical power, water, wastewater, stormwater, and telecommunications. The City of Port Townsend owns and maintains the water, wastewater, and stormwater facilities within the City's boundaries and the other utility facilities are owned and maintained by private entities.

How were the effects of the project on public services and utilities analyzed?

The public services and utilities team identified those public services and utilities that have service boundaries within the study area or provide services directly to the ferry terminal. The public services and utilities team analyzed the effects of the Proposed Action by reviewing existing conditions and the proposed project design to identify areas of potential concern.

What public service and utility effects would occur during construction of the project, and what mitigation is proposed?

During construction of the project, response and travel times of fire, emergency medical, and police vehicles through the study area may increase due to construction-related traffic slowdowns. The project is not expected to require the relocation of any utilities. However, depending on final design, the addition of the remote holding area may encroach on an underground telephone cable, which may need to be moved.

Recommended mitigation measures during construction include:

- WSF would provide the fire department and police with advance notice of construction schedules.
- WSF would notify and coordinate with the fire department and police prior to construction to alleviate the potential for increased response times due to construction activities.
- WSF would notify and coordinate with the police department and State Patrol to ensure adequate staffing during construction for traffic and pedestrian movement control.

- WSF would field-verify the exact locations and depths of underground utilities prior to construction.

What public service and utility effects would occur during operation of the project, and what mitigation is proposed?

The permanent effects of the project would be minor and would depend on the size of the vessel selected to serve the terminal. If WSF implements either of the larger vessels (100 or 130 cars), there would be more vehicles (35 to 65 cars) traveling through the study area during the loading and unloading times. The additional vehicles may increase the response and travel times of fire, emergency medical, and police vehicles when traveling along SR 20/Sims Way through Port Townsend. However, the extension of the existing terminal would provide additional vehicle storage over existing conditions and the reconfiguration of the toll booths would allow vehicles to be processed faster; these improvements would reduce the vehicle queue build-up along SR 20 that currently exists.

The project would install a water quality vault or proprietary water treatment device to treat stormwater runoff from the ferry terminal.

No indirect/secondary effects on public services and utilities are expected to occur as a result of the proposed project.

No mitigation would be required for operation of the project.

Are any of the identified effects considered significant?

A substantial effect to public services and utilities would occur if:

- The project impeded emergency services access or responsiveness.
- The project resulted in permanently disrupting any utility service.

There are no identified effects on public services and utilities that would be considered substantial.

What effects on public services and utilities would occur if the project is not built?

Under the No Build Alternative, there would be no effect on any of the public services and utilities in the ferry terminal area.

The new remote holding area (part of the No Build Alternative) would be constructed within existing WSDOT right-of-way. As a result, the construction would have minimal effects on utilities. Construction activities may increase response and travel times of fire, emergency medical, and police vehicles through the study area due to construction-related traffic slowdowns.

Operation of the new remote holding area is not expected to have any negative effects on utilities.

Historic, Cultural, and Archaeological Resources

What is the affected environment?

The Port Townsend Ferry Terminal Preservation and Improvement Project is located in the city of Port Townsend, Washington. The affected environment is the area within or adjacent to the project footprint that may be affected by construction and/or operation of the project. Historic properties include any prehistoric or historic district, site, building, structure, or object listed in or eligible for listing in the National Register of Historic Places (NRHP) and, under the State Environmental Policy Act, in state and local historic registers (WSDOT, 2006). They are also artifacts, records, and remains that are related to and located within such properties. In addition, historic properties include properties of traditional religious and cultural importance to a Native American tribe that meet the NRHP criteria.

An Area of Potential Effects (APE) is defined as the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist (WSDOT, 2006). The APE is determined by the scale and the nature of the undertaking and may be different for different kinds of effects. The Port Townsend National Historic Landmark District (PTHD) is within the APE for this project.

How were the effects of the project on historic properties analyzed?

The cultural resources discipline team contacted local agencies and reviewed archives to obtain information about previously documented cultural resources. The owner of the project, Washington State Department of Transportation, consulted with affected Indian Tribes (Swinomish, Suquamish, Port Gamble S'Klallam, Lummi, Lower Elwha Klallam, Jamestown S'Klallam, and Tulalip) to obtain information about known archaeological sites and traditional cultural places. The discipline team used this information to describe the existing baseline cultural resource conditions in the area and to identify any cultural resources and determine whether any of the identified resources are historic properties in the Port Townsend Ferry Terminal Preservation and Improvement Project's APE. The team then assessed the potential effects of the proposed project on those identified historic properties.

What historic properties effects would occur during construction of the project, and what mitigation is proposed?

Although the PTHD is within the APE, no adverse effects are anticipated on historic properties as a result of construction of the project. Therefore, no mitigation is necessary.

What effects on historic properties would occur during operation of the project, and what mitigation is proposed?

Although the PTHD is within the APE, no adverse effects are anticipated on historic properties as a result of operation of the project. Therefore, no mitigation is necessary.

What cumulative effects would there be on historic properties?

Although the PTHD is within the APE, no net cumulative effects are anticipated on historic properties as a result of operation of the project.

Are any of the identified effects considered adverse?

The Proposed Action would have an adverse effect if it diminished the integrity of a historic property. No unavoidable adverse effects are anticipated on historic properties as a result of the project.

What effects on historic properties would occur if the project is not built?

Under the No Build Alternative, no substantial effects would occur to historic properties.

Visual Quality

What is the affected environment?

For the Visual Quality Discipline Report, the affected environment consists of two primary elements. The first is the physical environment where components of the Proposed Action would be located in and seen from. The second element includes the people or viewers who would be able to see the changes to the landscape that would occur as a result of the Proposed Action.

To describe the existing affected environment, the study area was divided into five landscape units. Landscape units are identifiable and distinct geographic areas that contain views of a Proposed Action component. Four of the landscape units have views of the terminal and one has views of the proposed remote holding location.

To describe the affected environment of the project, each landscape unit was described in terms of location, visual character, views, types of viewers, and viewer sensitivity to changes in the visual environment. Representative viewpoints were selected for each landscape unit in order to provide more detailed descriptions of the visual quality of areas from which project components could be seen. Information related to these viewpoints included existing condition photographs, descriptions of the viewed environment, viewer type and sensitivity, and a visual quality rating.

How were the effects of the project on visual quality analyzed?

This discipline report was prepared using the Federal Highway Administration (FHWA) visual quality assessment method and the guidance outlined in Section 459, Visual Impacts, Light and Glare, of the Washington State Department of Transportation *Environmental Procedures Manual* (WSDOT, 2006).

The visual resource analysts first established the baseline conditions of the existing landscape by establishing landscape units (and representative viewpoints) and by determining how much of the project is visible from outside of the study area. From this baseline, potential changes to the visible landscape and likely viewer responses to those changes were addressed. Light and glare that would result from the Proposed Action alternatives were also identified. Based on the potential effects evaluation, the visual resource analysts determined whether or not mitigation measures would be required.

In addition, the *Port Townsend Urban Waterfront Plan*, the *Port Townsend Gateway Development Plan*, the *Port Townsend Comprehensive Plan*, and the *Port Townsend Shoreline Management Master Program* were consulted to identify goals, policies, guidelines, and performance standards that related to visual or aesthetic quality. The Proposed Action was then evaluated in terms of whether or not its components would be consistent with the plans.

What effects on visual quality would occur during construction of the project, and what mitigation is proposed?

Potential temporary negative effects on visual quality are related to construction activities such as dust, night lighting (while working), glare from equipment, and the presence of equipment and materials. Temporary effects related to construction lighting would occur during times of the year when night lighting for safety would be required. Construction at night would cease by 10:00 PM.

The relocation of Rotary Park during construction would temporarily remove a green vegetated area near the terminal (until the new Rotary Park is finished).

All the effects described are temporary and would not require mitigation measures.

What effects on visual quality would occur during operation of the project, and what mitigation is proposed?

The Proposed Action would result in permanent changes to views in the project area. The effects of the project on visual quality were assessed by examining five representative viewpoints, one for each of the five landscape units in the project area. The effects of the project on the representative viewpoints indicate that although there would be some decline in visual quality at some viewpoints, the decline would be minor. The following briefly summarizes changes in visual quality from the Proposed Action.

Viewpoint 1 (Union Wharf)

The existing visual quality of the view of the terminal area from Union Wharf (a pier park east of the terminal) is average. The preservation phase of the project would result in a slight decrease in visual quality and the visual quality rating. The improvement phase would result in no change to the rating. The Proposed Action would not change the visual quality rating of the view seen from Union Wharf, which would remain average.

Viewpoint 2 (Ferry Route in Port Townsend Bay)

The existing visual quality of the view of the terminal area from the ferry boat is moderately high to high. Neither phase would change the existing visual quality rating of the view, which would remain moderately high to high.

Viewpoint 3 (Shoreline West of Ferry Terminal)

The existing visual quality of the view of the terminal area from this location on the shoreline west of the terminal is moderately high to high. The preservation phase would result in a very slight decrease in visual quality and the visual quality rating. The improvement phase would cause no changes to the visual quality rating. The visual quality rating of this view would remain moderately high to high. The relocated Rotary Park, the new access to the adjacent beach, and the new sculptures along the beach would not be seen from this viewpoint, but their presence would improve the visual quality of the area near them and they would be seen from SR 20, the sidewalk next to SR 20, and the terminal area.

Viewpoint 4 (Washington Street/Uptown)

The existing visual quality of the view toward the terminal from this elevated location is average. The preservation and improvement phases would not change the overall existing visual quality rating of average.

Viewpoint 5 (SR 20 – East Sims Way)

The existing visual quality of the view of the potential remote holding area is average. When the holding area is empty, there would be no effect on the visual quality rating from this location. When the holding area is full of waiting cars, there would be a decrease in the visual quality rating of this view, but the rating would still be considered average.

What cumulative effects would there be on visual quality?

The Proposed Action would result in minimal direct effects to visual quality and would have minimal cumulative effects. The Proposed Action would be one of several potential projects that could affect the visual quality of the general project and Port Townsend area.

The Proposed Action would result in slight changes in the visual quality of areas where the changes would be visible. The Proposed Action would be designed to be consistent with guidelines, policies, and performance standards contained in existing plans (the *Port Townsend Urban Waterfront Plan*, the *Port Townsend Gateway Development Plan*, the *Port Townsend Comprehensive Plan*, and the *Port Townsend Shoreline Management Master Program*) that were developed to protect and improve visual quality, aesthetics, views, and viewsheds, visual quality. The Proposed Action and the other potential projects would not have cumulative negative effects on visual quality.

Are any of the identified effects considered significant?

The Proposed Action would introduce components into the visual environment that would be noticeable to the public. The changes associated with the Proposed Action would have minimal effects on visual quality and would not be considered significant.

What effects on visual quality would occur if the project is not built?

The construction of the new remote holding area would affect the visual quality of the view of this area of SR 20 (see discussion of Viewpoint 5 above). When the new holding area is full of vehicles, there would be a decrease in the visual quality rating of this area, but the rating would still be considered average.

Under the No Build alternative, there would be some construction activities related to maintaining structures that are beyond their useful design life. Effects related to these activities on visual quality would be similar to but less than those described above for the Proposed Action.

Transportation

During peak periods, such as weekends, holidays, and summer months, the existing holding area on the dock is not large enough to accommodate the number of vehicles waiting to board the vessel. As a result, WSF stages some waiting vehicles at a remote holding area (known as the Indian Point site) located approximately ¼ mile west of the terminal. Even with the use of this remote holding

area, traffic can still back up on SR 20, which blocks access to businesses and residences. The shortage of adequate holding space is projected to worsen over time, in part because the Indian Point remote holding site has been sold to a private developer and is proposed to be converted to a non-WSF use within the next 2 to 3 years and in part because of the expected growth in ferry ridership.

What is the affected environment?

The affected environment is the area within and adjacent to the project footprint that may be affected by construction and/or operation of the project. The affected transportation environment incorporates the access route to the ferry terminal along SR 20. It extends to Taylor Street on the east and Haines Place to the west. The western limit includes the potential remote holding area.

The transportation elements addressed within the affected environment include roadway infrastructure, non-motorized facilities, and transit services as well as traffic operations and safety.

How were the effects of the project on traffic analyzed?

The transportation discipline team performed an infrastructure review and data collection effort to quantify the current traffic demand and operations within the affected area.

The team analyzed two scenarios for each forecast year: an average commuter peak and a summer peak due to the highly seasonal ferry travel demand at this terminal.

The transportation team collected historical data from Washington State Department of Transportation and WSF, and utilized the historical growth trends to project future travel demand. Three forecast years were analyzed to represent short and long term project related impacts:

- Year 2009 – Peak construction (includes construction-related traffic and impacts)
- Year 2010 – Year of opening
- Year 2030 – Design year

Synchro software was used to quantify traffic operations at intersections within the study area. Intersection level of service, delays, and queuing were analyzed. Traffic signal optimization and coordination plans were derived with an overall focus on moving traffic through the city of Port Townsend from the ferry terminal. This approach was developed in conjunction with staff from the City of Port Townsend. Three interactive meetings were conducted with the City to integrate their perspective on analysis techniques, assumptions, and proposed mitigation.

What traffic effects would occur during construction of the project, and what mitigation is proposed?

Effects during construction are considered short-term in comparison to the life-span of the completed project. Construction of the Proposed Action is expected to last approximately 2 years. The construction effects would end when construction is complete.

The expected construction activities would cause increases in noise and dust levels, and would detract from views and visual quality due to earthwork activities, pier construction, and staging of

construction equipment. Washington State Ferries would coordinate construction activities with the local jurisdiction. Best management practices would be applied to mitigate noise and dust impacts.

Construction-related traffic, including personnel, heavy equipment, and material hauling, would only slightly increase existing travel demand within the study area. Most construction-related traffic would arrive by boat and work offshore.

Roadway lanes may occasionally be closed temporarily during construction of the improvements along SR 20. Traffic would be rerouted or redirected during this time. Temporary road closures may include SR 20 at the ferry terminal entrance and at the remote holding area, but ferry operations would be maintained. Construction activities would be coordinated with WSDOT for inclusion in their website and highway advisory radio announcements.

The holding area capacity during construction is not expected to be lower than the current capacity. This is possible because the proposed remote holding area is to be built before expansion of the terminal. Terminal expansion would be staged such that new construction would precede any demolition, and improvements would be made within the terminal prior to closing any portion of the dock.

Impacts would be kept to a minimum by scheduling lane closures and holding area restrictions outside of the peak travel demand periods such as commute hours and peak summer travel periods.

Driveway and cross-street access would be maintained throughout all lane closure activities to minimize impacts to properties within the study area.

Public outreach communications would inform motorists of construction activities. These would mainly include informational signs and website postings.

Construction activities would be coordinated with other projects within the study area to minimize conflicts.

Intersection level of service is not expected to degrade during construction of the terminal improvements.

What traffic effects would occur during operation of the project, and what mitigation is proposed?

The Port Townsend Ferry Terminal Preservation and Improvement Project would accommodate the projected ferry travel demand by increasing the ferry terminal holding area, improving tollbooth processing, and providing queuing areas for overflow vehicles along the south side of SR 20. The project would not increase ferry ridership demand, but would provide adequate vehicle and passenger accommodations for the projected demands.

Increasing the terminal holding capacity would require relocation of the local Rotary Park to the west side of the ferry terminal entrance. Pedestrians accessing the park to/from downtown Port Townsend would be required to make an additional street crossing that would conflict with the Port Townsend ferry terminal vehicular traffic. The ferry terminal entrance would be designed with pedestrian crosswalks, signal displays, and adequate walkway widths to accommodate access to the relocated park.

In addition to the park relocation, 16 off-street and 3 on-street parking stalls would be displaced to the east of the terminal, reducing the parking for waterfront businesses. The existing parking lots can be restriped, however, to gain efficiency and increase the overall number of stalls while still meeting standard parking stall dimensions.

Tollbooth operations would be improved by building two separate processing lanes. Currently, the tollbooths are in succession, which does not allow for efficient operations.

A storage lane accommodating 30 vehicles would also be retained along the south side of SR 20 to provide queuing for the tollbooths, and to separate the ferry queue from through traffic.

During peak ferry demand periods, a remote holding area would be used to store vehicles on the south side of SR 20 west of Kearney Street. Similar to the function of the current remote holding area, this new holding area would allow for a controlled release of vehicles to the ferry terminal, thus minimizing queuing impacts at the terminal entrance. The remote holding, however, would require vehicles accessing the terminal from downtown Port Townsend to access the remote holding lane, thus adding additional traffic to westbound SR 20.

Additionally, the ferry off-loading would produce vehicle surges. The small vessel would add vehicles to the local roadway system twice an hour (during the future 2030 peak summer season), similar to current operations. The mid-size and largest vessels would add more vehicles to the roadway, in comparison to the existing vessel, but only once per hour.

To improve operations during the larger surges of exiting vehicles, the expanded trestle provides a longer storage area for off-loading ferry vehicles, allowing for a timed release of the vehicles onto SR 20. Impacts can be further minimized by optimizing individual traffic signal timing and phasing while maintaining current off-loading times.

A potential traffic solution related to the largest vessel involves striping a southbound left-turn lane at Kearney Street and revising the signal phasing to allow a larger platoon of vehicles westbound on SR 20.

An additional potential improvement related to both the mid-size and largest vessels involves construction of a westbound right-turn and northbound left-turn pocket at Haines Place in addition to revising the current signal phasing.

What cumulative effects would there be on traffic?

Cumulative effects are those which result from the incremental impact of the proposed action when added to other reasonable future actions. Although the proposed action would not encourage growth or development, the potential Port of Port Townsend and private developments in the vicinity of the ferry terminal may result in cumulative traffic impacts.

Development impacts were assumed as part of the increase in background traffic within the study area. Traffic resulting from the developments has been reflected in the traffic analyses.

A potential cumulative effect during construction involves the WSDOT Hood Canal project. Closure of the Hood Canal Bridge is scheduled for a 2-month period in 2009. The Port Townsend-Keystone ferry route would be maintained throughout the construction activities; therefore access to the Peninsula would be maintained.

Are any of the identified effects considered significant?

No significant traffic effects are anticipated. The increased vehicle delays can be improved with the described solutions. Effects on other modes of transportation are not substantially altered from existing conditions.

What effects on traffic would occur if the project is not built?

Traffic operations of the No Build Alternative (with or without the new remote holding area) would be similar to the Proposed Action, described above.

If the project is not built, the Steel Electric Class boats would be used until retirement from the WSF fleet. These boats would require additional maintenance and operating costs until replacement vehicles are constructed. If the vessels are retired during the design horizon of this study, they would be replaced with vessels of similar size. Procurement of funds, design, and construction of the new ferries may require up to 4 years. A break in the Port Townsend-Keystone service would result in fewer vehicles in the waterfront area. Higher volumes of traffic would, however, be expected along the highways leading to and from the southern Olympic Peninsula.

Maintenance of structures that are beyond their useful design life would also occur on a regular basis. This maintenance may increase operating costs, depending on the age and integrity of the structures.